



Americans Michael Grizer and his 5-year-old daughter Sadie attempt to solve the Penrose Puzzle at Giessen's Math Museum. Visitors will discover a wide range of interactive exhibits at the new museum.

Food for the brain

Giessen's Mathematics Museum gives visitors of all ages a mental workout

Story and photos by
Petra Roberts
284th Base Support Battalion
Public Affairs Office

Germany's first and only math museum opened its doors in Giessen last November.

Visitors of all ages are challenged to test their skills in a variety of interactive exhibits. While one need not be a math wizard to enjoy the museum, patience is a prerequisite to solving some of the math puzzles presented.

Besides the many math challenges, visitors can learn about such math phenomena as the Leonardo Bridge — the smallest bridge that can be constructed out of a minimum of six pieces of wood without using any glue, nails or rope. The math involved is based on an invention by Leonardo da Vinci.

And then there's the challenge of stacking differently shaped blocks in a particular way. The formula that can be used to solve the puzzle is $1 + \frac{1}{2} + \frac{1}{4} + \dots$ and so on — or so it says in the instructions.

Ever heard of the Tower of Hanoi? To build this Vietnamese tower, five disks of different sizes

must be stacked by fitting them into round openings in a table, in a given sequence, in the fewest number of moves. Experts have mastered this experiment in 31 moves.

Children will enjoy the Giant Soap Film, a gigantic soap bubble nearly eight feet high. Smaller shapes of soap bubbles also have a surprising effect on visitors of all ages.

Visitors are invited to observe the Brachistochrone Problem and the Tautochrone Problem put to the test. The exhibit features two sets

of metal rails of different shapes. When wooden balls are placed at the top and released, they eventually arrive at the end at the same time despite the rails appearing to be of different lengths. The exhibits are based on Galileo's research in the 16th and 17th centuries.

The dice tables are another attraction. Visitors are invited to arrange various shapes into a pyramid, triangle or square.

One of the museum's attractions is observing fellow visitors as they relive their high school math experiences. It's a treat listening to people as they leave the museum discussing their success or lack thereof in solving the mathematical challenges.

The Math Museum is open Monday through Friday from 9 a.m. to 6 p.m., 9 a.m. to 8 p.m. on Thursday, 10 a.m. to 6 p.m. Saturdays and Sundays.

It is located on Liebigstrasse, down the street from the train station. If you decide to travel to Giessen by train, the museum is a five minute walk from the Giessen Hauptbahnhof.

All exhibits are in German and English. School classes are welcome. Call the museum at civ (0641) 9697 970 for information.



Sadie Grizer experiments with a giant soap bubble.

An inside look at the music industry

Frankfurt's Musikmesse

Annual trade show features latest trends in the business of making music

Photo feature by Karl Weisel
104th Area Support Group Public
Affairs Office

Musicians, instrument makers and anyone else concerned with the music business headed to Frankfurt's Messe March 5-9 to catch up on the latest innovations, products and trends.

While players had a chance to get their hands on top-of-the-line equipment, others listened to sales pitches for samplers, drum machines, stage lighting and just about anything else related to the business of making and selling music.

Some 1,495 exhibitors from nearly 50 countries were represented at this year's Frankfurt Musikmesse, billed as the "world's largest trade fair for musical instruments, music software, computer hardware, sheet music and accessories." While those in the business were able to network, talk shop and compare notes throughout the course of the fair, the public was invited in over the weekend.

Concerts and demonstrations on the various stages throughout the some 112,000 square meters of fairgrounds



Jazz guitarist Larry Coryell signs autographs after performing at the fair.

showcased the wide range of performance styles, talent and production techniques. Frankfurt's huge Festhalle was among various venues featuring hip-hop drummers, jazz guitarists, folk guitar pickers and Italian accordion players.

With the theme "Music Sounds Better With You," fair organizers reached out to the public at this 24th annual music fair featuring several special events including events for children ages 5-12 in its "music4kids" and "SchoolJam" Festival for German school bands. Noted musicians were on hand to help coach the best school bands.

The winning school rock band won a chance to play at the "Rock am Ring" festival this summer.

"With activities such as this, the Musikmesse aims to generate even greater interest in music making and to offer incentives for taking the frequently difficult but highly profitable path of a career in music," said Gerhard Gladitsch, a member of the Frankfurt Messe management board. "After all it is only by taking the first step from passive consumption to creative music making that people have the chance to see how much pleasure and verve music can give to life."

As some 98,000 visitors strolled among the various stands in the different halls dedicated to different instruments and elements of the music business they not only had the chance to try out the equipment but also to chat with some of their musical idols. As jazz guitar great Larry Coryell demonstrated guitars in one hall, Frank Zappa alumnus Mike Keneally worked out on a Taylor guitar, drummer Daniel Messina showed off his licks and the Slokar Trombone Quartet captivated audiences at other venues.

The Frankfurt Messe features a variety of international trade shows throughout the year. Among the most popular are the Music Fair in March and the Book Fair in the fall. For more information about upcoming fairs visit the Messe website at www.messefrankfurt.com.



Trade show visitors test pianos at one Musikmesse display.



A keyboard player demonstrates the many variations possible by altering sounds with an electronic processor.



Guitarist Eric Roche is a blur of activity as he plays a mean fingerpicking version of Van Halen's "Jump." Photo above left: Who would think that electrical sockets would be worth an entire stand at the Musikmesse? Photo left: customers talk with violin makers from Germany's famed Mittenwald region at the fair.